

layer [(43), that] said at least one electric conductor [(42)] is arranged interiorly of the inner layer [(43)] and that the inner layer has an electrical conductivity which is lower than the conductivity of the electric conductor but sufficient to cause the inner layer [(43)] to operate for equalization as concerns the electrical field exteriorly of the inner layer.

Claim 2. (Amended) [A] The device according to claim 1, [characterized in that] wherein the control means comprises at least one control winding [(9)] inductively connected to the magnetic circuit.

Claim 3. (Amended) [A] The device according to claim 1 [or 2, characterized in that] , wherein the control arrangement [(7)] is adapted to control the reluctance in the magnetic circuit.

Claim 4. (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein the control arrangement is adapted to add a magnetic flux addition to the magnetic flux in the magnetic circuit.

Claim 5. (Amended) [A] The device according to claim 3, [characterized in that] wherein material having a permeability greater than 1 is included in the magnetic circuit and that the control arrangement [(7)] is adapted to control the reluctance in the magnetic circuit by varying the permeability of one or more such zones of the magnetic circuit which have variable permeability.

Claim 6. (Amended) [A] The device according to claim 5, [characterized in that] wherein the zone or zones having a variable permeability comprise one or more gaps in the magnetic circuit.

Claim 7. (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein the magnetic circuit is without magnetic core.

Claim 8. (Amended) [A] The device according to [any of claims 1-6, characterized in that] claim 1, wherein the winding is wound about a magnetic core [(6)].

Claim 9. (Amended) [A] The device according to claim 2 [or one or more of the other claims, characterized in that], wherein the control winding [(9)] and the winding [(4, 5)] of the electric circuit are arranged to be passed by substantially the same magnetic flux.

Claim 10. (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein the device forms a reactor adapted to control, by means of said at least one control winding, frequency, amplitude and/or phase as concerns the electric power flowing in the winding [(4, 5)] of the electric circuit.

Claim 11. (Amended) [A] The device according to [any of claims 1-8 or 10, characterized in that] claim 1, wherein the electric circuit [(2)] comprises at least two windings [(23, 24)] coupled in series, that the magnetic circuit comprises at least two alternative flux paths [(18, 19)], that said at least one control winding is adapted to control the magnetic flux to pass in any of or both of these flux paths and that the two windings of the electric circuit are located such that one of them is capable of being switched off from magnetic flux by means of said at least one control winding.

Claim 12. (Amended) [A] The device according to [any of claims 1-9 or 11, characterized in that] claim 1, wherein the magnetic circuit is arranged in the stator or rotor of a rotating electric machine.

Claim 13. (Amended) [A] The device according to [any of claims 1-9, characterized in that] claim 1, wherein the magnetic circuit [(1)] belongs to a transformer having primary and secondary windings [(4, 5)] and that the primary and secondary windings and the control winding [(9)] are arranged to be passed by the same magnetic flux.

Claim 14. (Amended) [A] The device according to [any of claims 1-8] claim 1 in a transformer, [characterized in that] wherein the secondary winding of the transformer comprises at least two winding parts coupled in series, that the magnetic circuit comprises at least two alternative flux paths [(18, 19)], that at least two occurring control windings [(9b1, 9b2, 9c1, 9c2)] are adapted to control the magnetic flux to pass in one or both of these paths and that the two winding parts of the secondary winding are placed such that one of them is capable of being switched off from magnetic flux by means of the control windings.

Claim 15. (Amended) [A] The device according to [any of claims 11 and 14 characterized in that] claim 11, wherein it comprises a magnetic core having at least three legs coupled in parallel and that two of these legs belong to different flux paths whereas the third is common to the two flux paths.

Claim 16. (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein the insulation system exteriorly of the insulation comprises an outer layer [(45)] which has an electrical conductivity which is higher than that of the insulation to make the outer layer capable, by connection to earth or otherwise a relatively low potential, of operating to equalize potential.

Claim 17. (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein the outer layer is arranged to substantially enclose the electric field, arising as a consequence of said electrical conductor [(42)], inwardly of the outer layer [(45)].

Claim 18. (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein the inner layer [(43)] and the solid insulation present substantially equal thermal properties.

Claim 19. (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein the outer layer [(45)] and the solid insulation present substantially equal thermal properties.

Claim 20. (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein said at least one conductor [(42)] forms at least one induction turn.

Claim 21 (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein the inner and/or outer layer [(43, 45)] comprises a semiconducting material.

Claim 22. (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein the inner layer [(43)] and/or the outer layer [(45)] has a resistivity in the range  $10^{-6} \Omega \text{ cm}$  -  $100 \text{ k} \Omega \text{ cm}$ , suitably  $10^{-3} \Omega \text{ cm}$ , preferably 1 -  $500 \Omega \text{ cm}$ .

Claim 23. (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein the inner layer [(43)] and/or the outer layer [(55)] has a resistance which per length meter of the conductor/insulation system is in the range  $50 \mu \Omega$  -  $5 \text{ M} \Omega$ .

Claim 24. (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein the solid insulation [(44)] and the inner layer [(43)] and/or the outer layer [(45)] are formed by polymeric materials.

Claim 25. (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein the inner layer [(43)] and/or the outer layer [(45)] and the solid insulation [(44)] are rigidly connected to each other over substantially the entire interface to ensure adherence also on flexing and temperature change.

Claim 26. (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein the solid insulation and the inner layer and/or the outer layer are formed by materials having a high elasticity to maintain mutual adherence on strains during operation.

Claim 27. (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein the solid insulation and the inner layer and/or the outer layer are formed by materials having substantially equal E-modulus.

Claim 28. (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein the inner layer [(43)] and/or the outer layer [(45)] and the solid insulation [(44)] are formed by materials presenting substantially equal thermal coefficients of expansion.

Claim 29. (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein the conductor [(42)] and its insulation system constitutes a winding formed by means of a flexible cable [(41)].

Claim 30. (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein the inner layer [(43)] is in electric contact with the at least one electric conductor [(42)].

Claim 31. (Amended) [A] The device according to claim 30, [characterized in that] wherein said at least one electric conductor [(42)] comprises a number of strands and that at least one strand of the electric conductor [(42)] is at least in part uninsulated and arranged in electric contact with the internal layer [(43)].

Claim 32. (Amended) [A] The device according to [any preceding claim, characterized in that] claim 1, wherein the conductor [(42)] and its insulation system is designed for high voltage, suitably in excess of 10kV, in particular in excess of 36 kV and preferably more than 72,5 kV.

Claim 33. (Amended) [A] The machine according to claim 12, [characterized in that] wherein the magnetic circuit comprises one or more magnetic cores [(48)] having slots [(50)] for the winding [(41)].

Claim 34. (Amended) [A] The device according to [any of claims 12 and 32-33, characterized in that] claim 12, wherein it is constituted of a generator, motor or synchronous compensator.

Claim 35. (Amended) [A] The device according to [any of claims 12 and 33-34,